

AMENDMENT under *Ex parte Quayle*
U.S. Appln. No. 09/882,270

IN THE SPECIFICATION:

- 1.) After the Title on page 1 line 5 of the specification, please add the following new section:

Cross-reference to Related Applications

This application is a continuing application of, and claims priority under 35 U.S.C. § 120 to, copending U.S. Application Serial No. 08/811,108 (now U.S. Patent No. 6,272,121) filed on March 3, 1997 by the same inventors and have the same title.

- 2.) Please replace the paragraph at lines 13-24 of page 18 with the following amended paragraph:

In a preferred embodiment, a 32-ary transmission technique is used, wherein 32 different symbol codes are used to transmit 5 bits of information each. In addition, the phase of each symbol code is also preferably encoded or modulated so as to convey an additional bit of information, for a total of 6 bits of information per symbol code. A preferred method for phase encoding and decoding spread spectrum signals is disclosed in U.S. Patent Application Serial No. 08/484,007 filed June 7, 1995, (now U.S. Patent No. 5,757,847) which is hereby incorporated by reference as if fully set forth herein. Each symbol code is preferably 32 chips in length. A presently preferred family of symbol codes appears in Table 6-1 below.

- 3.) Please replace the paragraph beginning at line 18 of page 20 and ending at line 2 of page with the following amended paragraph:

In another embodiment of the invention, the correlator 621 comprises a spread spectrum correlator such as disclosed in U.S. Patent 5,757,847 Application Serial No. ~~08/484,007~~, previously incorporated by reference herein. In this embodiment, an entire pseudo noise code

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sequence (a symbol code) is transmitted for each group of data bits (e.g., five data bits) of the data stream 606. A sixth bit is also sent for each symbol code (except the first) by differential phase encoding, as described further in U.S. Patent 5,757,847 ~~Application Serial No. 08/484,007~~.

4.) **Please replace the paragraph at lines 4-10 on page 21 with the following amended paragraph:**

In another embodiment of the invention, the correlator 621 comprises a spread spectrum correlator such as disclosed in U.S. Patent Application Serial No. 08/432,913 filed on May 1, 1995, (now U.S. Patent 5,761,239) which is hereby incorporated by reference as if fully set forth herein. This type of correlator does not require the generation of a local reference of the chip code in the receiver 620, and also results in rapid synchronization.

5.) **Please replace the paragraph at lines 4-23 of page 25 with the following amended paragraph:**

Because of the relatively high symbol transmission rate required, it may not be possible to contain the bandwidth of the transmitted signal within the bandwidth allocated for a single DECT 1.728 MHz frequency channel. Using a BPSK modulation technique with six bits transmitted per symbol, for example, a bandwidth of at least 6.143 MHz would theoretically be required, while in a practical implementation a bandwidth of about one-and-a-half times that, or 9 MHz, may be required. Using a quadrature phase shift keyed (QPSK) modulation technique, a bandwidth of at least 3.071 MHz would theoretically be required, while in practical implementation a bandwidth of about 4.6 to 4.9 MHz may be required. An alternative transmission technique having roughly the same bandwidth requirements as QPSK in this context is disclosed in copending U.S. Patent Application Serial No. 08/423,225 filed on April 17, 1995, (now U.S. Patent 5,548,253) and is hereby incorporated by reference as if fully set

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forth herein. Higher order PSK modulation may also be used. For example, using an 8-PSK modulation technique a bandwidth of 2.03 MHz or more would be required, using a 16-PSK modulation technique a bandwidth of 1.6 MHz or more would be required.

6.) Please replace the originally filed Abstract with the following new Abstract:

A spread spectrum transmitter adapted for transmitting input data streams from a DECT (Digital European Cordless Telecommunication System) MAC (medium-access control) layer, where the data streams conform to a DECT physical layer packet structure. A related spread spectrum receiver is also disclosed.